What is claimed is :

1. A system for detecting a connection status in a network, wherein the network comprises at least a first node and a second node, the system comprising:

   a request frame transmitted by the first node including a source address comprising an address of the first node; and

   a reply frame transmitted by the second node after receiving the request frame including a destination address comprising the address of the first node;

   wherein the first node determines the connection status in a link layer according to the destination address of the reply frame.

2. The system as recited in claim 1, wherein the first node re-transmits the request frame if not receiving the reply frame within a predetermined response time period.

3. The system as recited in claim 1, wherein both the destination address of the request frame and the source address of the reply frame comprise an address of the second node.

4. The system as recited in claim 1, wherein both the destination address of the request frame and the source address of the reply frame comprise a broadcast address.

5. The system as recited in claim 1, wherein the first node and the second node comprise a network interface card (NIC) or a switch.

6. The system as recited in claim 5, wherein if the second node comprises the NIC, it transmits the reply frame when the destination address of the received request frame comprises an address of the second node.

7. The system as recited in claim 5, wherein if the second node comprises the switch, it transmits the reply frame when the destination address of the received request frame comprises a broadcast address.

8. The system as recited in claim 5, wherein if the second node comprises

the switch, it selectively transmits the reply frame when the destination address of the received request frame comprises an address of the second node.

9. The system as recited in claim 1, wherein both the request and the reply frame comprise an opcode for indicating the request frame and the reply frame respectively.

10. The system as recited in claim 1, wherein both the request frame and the reply frame comprise an identifier for indicating supporting the system.

11. The system as recited in claim 1, wherein the network is an Ethernet network.

12. A method for detecting a connection status in a network, wherein a first node and a second node are connected via the network, the method comprising:

transmitting a request frame to the network by the first node;

transmitting a reply frame to the network by the second node when the second node receiving the request frame; and

determining, by the first node in a link layer, the connection status according to a destination address of the reply frame.

13. The method as recited in claim 12, wherein the first node determines the connection status through checking whether the destination address of the reply frame comprises the address of the first node when receiving the reply frame within a predetermined response time period after the first node transmits the request frame.

14. The method as recited in claim 12, wherein the first node re-transmits the request frame if not receiving the reply frame within the predetermined response time period.

15. The method as recited in claim 12, wherein the first node and the second node comprise a network interface card (NIC) or a switch.

16. The method as recited in claim 15, wherein if the second node comprises the NIC, it transmits the reply frame when the destination address of the received request frame comprises an address of the second node.

17. The system as recited in claim 15, wherein if the second node comprises the switch, it transmits the reply frame when the destination address of the received request frame comprises a broadcast address.

18. The system as recited in claim 15, wherein if the second node comprises the switch, it selectively transmits the reply frame when the destination address of the received request frame comprises an address of the second node.

19. A system for detecting a connection status in a network, wherein a first node and a second node are connected via the network, the apparatus comprising:

a transmitter, in the first node, for transmitting a request frame to the network, wherein a source address of the request frame comprises an address of the first node; and

a receiver, in the first node, for receiving a reply frame from the second node, wherein the second node transmits the reply frame according to the request frame;

wherein the first node determines the connection status in a link layer according to a destination address of the reply frame from the second node.

20. The system of claim 19, wherein the first node re-transmits the request frame if not receiving the reply frame within a predetermined response time period.